

Application Serial No. 10/018,952
Amendment dated October 22, 2004
Reply to Office Action dated June 23, 2004

Amendments to the Specification:

Please replace paragraph [0001] with the following amended paragraph:

[0001] The invention relates to a method and to a device for accessing a telecommunications network and for billing telecommunications services ~~according to the generic term of the independent patent claims.~~

Please add the following new paragraph [0006.1]:

[0006.1] WO 98 34393 discloses a "Prepay" telecommunication system which has a "prepay" call management platform which is connected directly to an exchange station (Vermittlungsstelle) and has a subscriber data bank for the storage of subscriber data as well as arrangements for the "Prepay" payment development. "Prepay" calls are conducted first to the call management platform, where the credit account of the subscriber is checked. If the credit account shows a sufficient amount, the conversation (call) is forwarded to the exchange station, which establishes the desired connection. If an unregistered Roaming call is detected by the call management platform, then various payment possibilities are offered to the Roaming subscriber for selection. If, for example, the payment type by means of credit card is selected by the subscriber, the latter must report the credit card number to the call management platform, which checks the credit card number and releases the connection request on successful checking.

Please replace paragraph [0008] with the following amended paragraph:

[0008] This problem is solved by the ~~characterizing features of the independent patent claims~~ present invention.

Please replace paragraph [0011] with the following amended paragraph:

[0011] According to the invention there holds, as in the classic case, the following:

- the network operator makes available an infrastructure and services;
- these can be used in return for payment;
- the network operator controls the access to [[this]] these services.

Please replace paragraph [0012] with the following amended paragraph:

[0012] In ~~contrast~~ contrast to the two classical possibilities--~~over subscription~~ oversubscription or ~~over payment~~ overpayment in advance (Prepaid) in order to obtain access entitlement to the network--according to one form of the invention the following is provided:

Please replace paragraph [0013] with the following amended paragraph:

[0013] The subscriber must in advance (or subsequently) notify the network operator in some manner (or must convince this party) that a payment for the service requested (or to be requested) either is being made, or ~~[[hass]]~~ has already been made, as he:

- a) proves beyond doubt his identity and a dependability associated therewith (for example: "I am the federal Chancellor of the Federal Republic of Germany", using a digital signature, for example.
- b) pays directly over dependable mechanisms (EC card, electronic exchange)
- c) proves beyond doubt his association with a dependable third party who takes responsibility for the payment (a credit card organization, for example).

Please replace paragraph [0014] with the following amended paragraph:

[0014] If the subscriber can fulfill one of the above-mentioned requests ~~[[a), b), or c)]]~~ a), b) or c), then primarily the claim of the network operator to obtaining a payment from the subscriber is satisfied. Depending on the process carried out, and on the process environment, even the point "Who is the subscriber?" is to be fulfilled, which~~[[, to be sure,]]~~ is not compulsorily required.

Please replace paragraph [0015] with the following amended paragraph:

[0015] Ever according to variants in character and in form of execution, the demands of the network operator in regard to the certainty of payment by the subscriber are surely different, also in comparison to the classical set-up. The measure of security lies~~[[, to be sure,]]~~ solely in the judgment or estimation of the network operator. For the clarification of this fact there serves the classical set-up in the GSM network, in which the network operator

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- decides on the technical security of the SIM;
- decides freely about the authentication algorithm (even the selection of a simple "XOE-algorithm" would be allowed);
- he himself determines the individual subscriber key (Ki) (even a constant key for all the subscribers would be allowed);
- decides on the security level of the entire key management process (generation, transport, storage).

Please replace paragraph [0016] with the following amended paragraph:

[0016] According to a preferred form of execution of the invention it is provided to use a credit card as payment medium. All applications of hitherto which describe the use of credit cards as payment medium presume that the subscriber in principle has an access entitlement to a communication network, which he has already obtained by one of the above variants (subscription, Prepaid). The paying per credit card (predominantly of third parties) ~~[[are]]~~ is settled in this way (likewise over the credit card). There is a band width, there, of forms of execution possibilities which differ in security and in user-friendliness. Let there be mentioned, for example, the following variants:

the subscriber gives his credit card number to a search server;
he uses the keyboard (DTMF-tones) for the input of his credit card number;
he sends an SMS to a special server with his credit card data;
with the aid of his MSISDN or IMSI an allocation to his credit card is established (which the subscriber has made known in advance to the network operator).

Please replace paragraph [0023] with the following amended paragraph:

[0023] Unregistered SIMs have this restriction in large part. Thus it is entirely imaginable to distribute so-called "Simple-SIMs" in large number to end customers or points of sales, which would open up quite different marketing approaches. By a Simple-SIM in the simplest case a chip card is to be understood, which has, as sole functionality, the capacity of making possible the registration procedure for an end apparatus, as it makes available an IMSI. The IMSI does not have to be registered with the network operator, nor must the Simple-SIM be authenticated for--as described above--the network operator takes ~~up this~~ up this ~~stair~~ up and with these cards offers the registration ~~[[per]]~~

credit card. For example, it may be provided that each credit card customer obtains with his monthly bill a Simple-SIM sent to him. This Simple-SIM is installed in a cellular telephone and permits the (restricted) access to a mobile radio network, as the registration is developed over the credit card. The billing for the telecommunication services used occurs likewise over the credit card. Through elimination of the necessity to sign a subscription per contract, it is entirely imaginable to market the simple SIMs also over newsstands, filling stations, trade chains, etc. Likewise the possibility is offered to sign agreements with end apparatus producers, so that the latter will already supply their end apparatuses with a simple SIM of a network operator. This lies both in the interest of the network operator as well as in the interest of the end apparatus producers and end customers, since the end apparatus is already telephonable without the signing of subscription contract.

Please replace paragraph [0025] with the following amended paragraph:

[0025] In the following the invention is explained in detail with reference to the drawing figures. In the process further features and advantages of the invention are yielded. In the drawing:

Fig. 1 shows ~~Entering~~ entry into the GSM network by means of error evaluation of the HLR;

Fig. 2 shows ~~Identification~~ identification and call build-up over credit card server (CC-Server);

Fig. 3 shows ~~Entry~~ entry into the GSM network by means of Simple-SIM and Simple-HLR.

Please replace paragraph [0029] with the following amended paragraph:

[0029] In all cases in the classical case the network operator (sends) a corresponding error report to the end apparatus 1 and denies access to his infrastructure (an exception if made exclusively for the emergency call ["112"]) 911).

Please replace paragraph [0034] with the following amended paragraph:

[0034] Simultaneously the normally executed authentication and cipher procedures are switched off and the Location Update Procedure is concluded, as the accomplished simplified ~~residence/say~~ residence registration is positively confirmed.

Please replace paragraph [0041] with the following amended paragraph:

[0041] On network side there is arranged in addition to the regular HLR 7 a so-called Simple-HLR 10, which is appropriate exclusively for the registration of the simple SIMs. Like the regular HLR 7, the simple HLR 10 used for the registration of the simple SIMs also must have certain functionalities, especially at its interface point; but internally it can clearly be more simply implemented and, for example, have only one standard subscriber profile, no ~~MSISDNs~~ MSISDNs, simplified authentication mechanisms, etc. At least the simple HLR 10 must be capable of recognizing the IMSIs allocated to the simple SIMs as such.

Please replace paragraph [0042] with the following amended paragraph:

[0042] Analogously to the example of execution according to Figs. 1 and 2, the end apparatus or the ~~simple-SIM 9~~ Simple-SIM 9 reports to the mobile radio network, as first of all a Location Update Procedure is initiated. With the aid of the IMSI communicated from the ~~simple-SIM 9~~ Simple-SIM 9, the ~~simple-HLR 10~~ Simple-HLR 10 recognizes that a special ~~handling~~ treatment of this connection ~~wish~~ request (of the subscriber) is necessary. Since, however, the IMSI of the ~~simple-SIM~~ Simple-SIM 9 is known to the ~~simple-HLR 10~~ Simple-HLR 10, a regular entering of the end apparatus 1 into the mobile radio network is ~~permitted~~, allowed with use of the corresponding authentication and cipher mechanisms. ~~There it is possible to use~~ There, simplified authenticating and coding parameters can be used, which can be carried out with constant, uniform Challenge/Response pairs or with variable Challenge/Response pairs which are generated ~~in the simple-HLR 10 by the cryptographic process~~ by cryptographic processes in the Simple-HLR 10.

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Please replace paragraph [0043] with the following amended paragraph:

[0043] Despite a completed authentication of subscriber with the aid of his ~~Simple-SIM 9~~ Simple-SIM 9, the call further-switching by the ~~simple-HLR 10~~ Simple-HLR 10 is at first blocked, as an error report (ERROR) is given back to the VLR 5.